

Appln. No. 09/927,457
Amd. dated January 26, 2005
Reply to the Office Action of August 26, 2004

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An apparatus for implementing a Floating-Point related application, comprising:
 - a tool that includes:
 - a receiver for receiving a list of floating-point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest in respect of at least one FP instruction;
 - a parser for parsing the floating-point commands;
 - a processor configured to process at least the parsed commands for realizing the floating-point Floating-Point related application on the basis of said events.
2. (original) The apparatus of Claim 1, wherein said language further defining regrouping of the events into at least one coverage model; and wherein said processor is configured to process the parsed commands for realizing the floating-point related application on the basis of said events and said at least one coverage model.

3. (original) The apparatus according to Claim 1, wherein said application is an evaluation of coverage of tests being run on a design.

4. (original) The apparatus according to Claim 1, wherein said processor is configured to generate a sequence of test vectors for verification of Floating-Point module operation; the test vectors meet the constraints of said events.

5. (original) The apparatus according to Claim 4, wherein said verification includes verifying if the Floating-Point operation complies with IEEE standard for Floating-Point.

6. (original) For use with the Floating-Point module of Claim 1, a computer language; the language defining Floating-Point events of interest in respect of at least one FP instruction.

7. (original) The computer language of Claim 6, further defining regrouping of the events into at least one coverage model.

8. (original) An apparatus for implementing a Floating-Point related application, comprising:
a tool that includes:

a receiver for receiving a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest and regrouping of events into at least one coverage model, in respect of at least one FP instruction; the coverage model having the form of a sequence of Floating-Point commands with constraints on (i) at least one intermediate result operand of the FP instruction, and (ii) result operand of the FP instruction;

a parser for parsing the floating point commands;
a processor for processing at least the parsed commands for realizing the ~~Floating-point~~ Floating-Point related application at least on the basis of said events and said at least one coverage model.

9. (original) The apparatus according to Claim 8, wherein said application is an evaluation of coverage of tests being run on a design.

10. (original) The apparatus according to Claim 8, wherein said processor is configured to generate a sequence of test vectors for verification of Floating-Point module operation; the test vectors meet the constraints of said events and the at least one coverage model.

11. (original) The apparatus according to Claim 8, wherein said verification includes verifying if the Floating-Point operation complies with the IEEE standard for Floating-Point.

12. (original) For use with the Floating-Point module of Claim 8, a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest and regrouping of events into at least one coverage model, in respect of at least one FP instruction, the coverage model having the form of a sequence of Floating-Point commands with constraints on (i) at least one intermediate result operand of the FP instruction, and (ii) result operand of the FP instruction.

13. (currently amended) An apparatus for implementing a Floating-Point related application, comprising:
a tool that includes:
a receiver for receiving a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest and regrouping of events into at least one coverage model, in respect of at least one FP instruction; the coverage model having the form of a sequence of Floating-Point commands with constraints on (i) at least one intermediate result operand

of the FP instruction, and (ii) result operand of the FP instruction; each one of said constraints is expressed as at least one set each of which defining allowable Floating-Point numbers;

a parser for parsing the floating point commands;
a processor for processing at least the parsed commands for realizing at least on the basis of said events and said at least one coverage model the Floating-point Floating-Point related application.

14. (original) The apparatus according to Claim 13, wherein said application is an evaluation of coverage of tests being run on a design.

15. (original) The apparatus according to Claim 13, wherein said processor is configured to generate a sequence of test vectors for verification of Floating-Point module operation; the test vectors meet the constraints of said events and at least one coverage model.

16. (original) The apparatus according to Claim 13, wherein said verification includes verifying if the Floating-Point operation complies with the IEEE standard for Floating-Point.

17 (original) For use with the Floating-Point module of Claim 13, a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest and regrouping of events into at least one coverage model, in respect of at least one FP instruction; the coverage model having the form of a sequence of Floating-Point commands with constraints on: (i) at least one intermediate result operand of the FP instruction, and (ii) result operand of the FP instruction; each one of said constraints is expressed as at least one set each of which defining allowable Floating-Point numbers.

18. (original) The apparatus according to Claim 1, wherein said list of commands includes: Range of FP numbers ; Mask on bits of FP number; Set or Reset Number of Bits in an FP number; Set or Reset Continuous-Bit-Long in an FP number; Relative Values of at least two FP numbers, and logical operations among said commands.

19. (original) The apparatus according to Claim 6, wherein said list of commands includes: Range of FP numbers; Mask on bits of FP number; Set or Reset Number of Bits in an FP number; Set or Reset Continuous-Bit-Long in an FP number; Relative Values of at least two FP numbers, and logical operations among said commands.

20. (original) The apparatus according to Claim 7, wherein said list of commands includes: Range of FP numbers; Mask on bits of FP number; Set or Reset Number of Bits in an FP number; Set or Reset Continuous-Bit-Long in an FP number; Relative Values of at least two FP numbers, and logical operations among said commands.

21. (original) The apparatus according to Claim 8, wherein said list of commands includes: Range of FP numbers ; Mask on bits of FP number; Set or Reset Number of Bits in an FP number; Set or Reset Continuous-Bit-Long in an FP number; Relative Values of at least two FP numbers, and logical operations among said commands.

22. (original) The apparatus according to Claim 12, wherein said list of commands includes: Range of FP numbers ; Mask on bits of FP number; Set or Reset Number of Bits in an FP number; Set or Reset Continuous-Bit-Long in an FP number; Relative Values of at least two FP numbers, and logical operations among said commands.

23. (original) The apparatus according to Claim 13, wherein said list of commands includes: Range of FP numbers ; Mask on bits of FP number; Set or Reset Number of Bits in an FP number; Set or Reset Continuous-Bit-Long in an FP number;

Relative Values of at least two FP numbers, and logical operations among said commands.

24. (original) The apparatus according to Claim 17, wherein said list of commands includes: Range of FP numbers ; Mask on bits of FP number; Set or Reset Number of Bits in an FP number; Set or Reset Continuous-Bit-Long in an FP number; Relative Values of at least two FP numbers, and logical operations among said commands.

25. (original) The apparatus according to Claim 8, wherein said constraints are further applied to attributes of Machine State.

26. (original) The apparatus according to Claim 13, wherein said constraints are further applied to attributes of Machine State.

27. (currently amended) A method for implementing a Floating-Point related application that includes the steps of :

(a) receiving a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest in respect of at least one FP instruction;

(b) parsing the floating point commands; and

(c) processing at least the parsed commands for
realizing the ~~floating point~~ Floating-Point related application
on the basis of said events.

28. (original) A method for implementing a Floating-
Point related application that includes the steps of:

(a) receiving a list of floating point commands
in a formal computer language; the language having set based
constraints that facilitate defining Floating-Point events of
interest and regrouping of events into at least one coverage
model, in respect of at least one FP instruction; the coverage
model having the form of a sequence of Floating-Point commands
with constraints on (i) at least one intermediate result operand
of the FP instruction, and (ii) result operand of the FP
instruction;

(b) parsing the floating point commands; and

(c) processing at least the parsed commands for
realizing the ~~Floating point~~ Floating-Point related application
at least on the basis of said events and said at least one
coverage model.

29. (original) A method for implementing a Floating-
Point related application, that includes the step of:

(a) receiving a list of floating point commands in a
formal computer language; the language having set based
constraints that facilitate defining Floating-Point events of

interest and regrouping of events into at least one coverage model, in respect of at least one FP instruction; the coverage model having the form of a sequence of Floating-Point commands with constraints on (i) at least one intermediate result operand of the FP instruction, and (ii) result operand of the FP instruction; each one of said constraints is expressed as at least one set each of which defining allowable Floating-Point numbers;

(b) parsing the floating point commands; and
(c) processing at least the parsed commands for realizing at least on the basis of said events and said at least one coverage model the Floating-point Floating-Point related application.

30. (currently amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for implementing a Floating-Point related application that includes the steps of :

(a) receiving a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest in respect of at least one FP instruction;
(b) parsing the floating point commands; and

(c) processing at least the parsed commands for realizing the floating-point related application on the basis of said events.

31. (currently amended) A computer program product comprising a computer useable medium having computer readable program code embodied therein for causing the computer to implement a Floating-Point related application, comprising:

computer readable program code for causing the computer to receive a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest in respect of at least one FP instruction;

computer readable program code for causing the computer to parse the floating point commands; and

computer readable program code for causing the computer to process at least the parsed commands for realizing the floating point Floating-Point related application on the basis of said events.

32. (currently amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for implementing a Floating-Point related application, that includes the steps of:

(a) receiving a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest and regrouping of events into at least one coverage model, in respect of at least one FP instruction; the coverage model having the form of a sequence of Floating-Point commands with constraints on (i) at least one intermediate result operand of the FP instruction, and (ii) result operand of the FP instruction; each one of said constraints is expressed as at least one set each of which defining allowable Floating-Point numbers;

(b) parsing the floating point commands; and
(c) processing at least the parsed commands for realizing at least on the basis of said events and said at least one coverage model the Floating-point Floating-Point related application.

33. (currently amended) A computer program product comprising a computer useable medium having computer readable program code embodied therein for causing the computer to implement a Floating-Point related application, comprising:
computer readable program code for causing the computer to receive a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of

interest and regrouping of events into at least one coverage model, in respect of at least one FP instruction; the coverage model having the form of a sequence of Floating-Point commands with constraints on (i) at least one intermediate result operand of the FP instruction, and (ii) result operand of the FP instruction; each one of said constraints is expressed as at least one set each of which defining allowable Floating-Point numbers;

computer readable program code for causing the computer to parse the floating point commands; and

computer readable program code for causing the computer to process at least the parsed commands for realizing at least on the basis of said events and said at least one coverage model the ~~Floating point~~ Floating-Point related application.

34. (currently amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for implementing a Floating-Point related application, that includes the steps of:

(a) receiving a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest and regrouping of events into at least one coverage

model, in respect of at least one FP instruction; the coverage model having the form of a sequence of Floating-Point commands with constraints on (i) at least one intermediate result operand of the FP instruction, and (ii) result operand of the FP instruction; each one of said constraints is expressed as at least one set each of which defining allowable Floating-Point numbers;

(b) parsing the floating point commands; and
(c) processing at least the parsed commands for realizing at least on the basis of said events and said at least one coverage model the ~~Floating-point~~ Floating-Point related application.

35. (currently amended) A computer program product comprising a computer useable medium having computer readable program code embodied therein for causing the computer to implement a Floating-Point related application, comprising:

computer readable program code for causing the computer to receive a list of floating point commands in a formal computer language; the language having set based constraints that facilitate defining Floating-Point events of interest and regrouping of events into at least one coverage model, in respect of at least one FP instruction; the coverage model having the form of a sequence of Floating-Point commands with constraints on (i) at least one intermediate result operand

of the FP instruction, and (ii) result operand of the FP instruction; each one of said constraints is expressed as at least one set each of which defining allowable Floating-Point numbers;

computer readable program code for causing the computer to parse the floating point commands; and

computer readable program code for causing the computer to process at least the parsed commands for realizing at least on the basis of said events and said at least one coverage model the Floating-point Floating-Point related application.